

2005 Integrated Energy Policy Report

Committee Hearing on the California and Western Electricity Supply Outlook Report

July 26, 2005

Call-in Number: 888-390-3110

Call Leader: Al Alvarado

Pass code: Electricity



Purpose of Report

- Assess all aspects of energy demand and supply
- Identify/understand load and resource trends affecting electricity system reliability through 2016
- Support policy recommendations to the Governor, Legislature, and other state agencies



Four Assessments

- Five-year outlook of CA electricity supply-demand
- Western regional supply-demand outlook (2006-2016)
- Summaries of “Resource Plans” by CA Load Serving Entities (LSEs)
- Electricity retail price forecast



Primers

- California's electricity generation and transmission systems
- Fundamentals of LSE supply-adequacy and procurement activities
- Customer choice and direct access

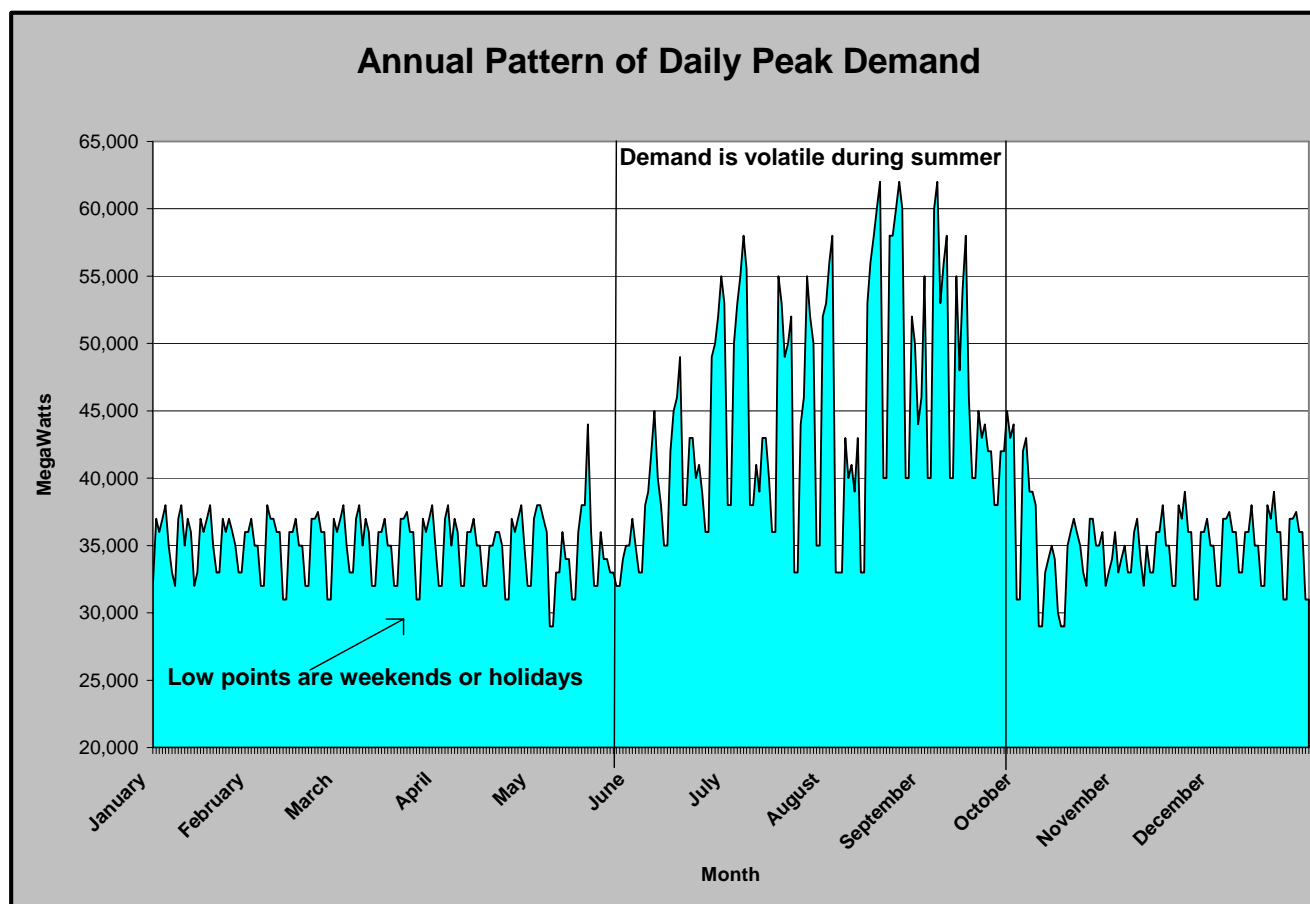


Appendices

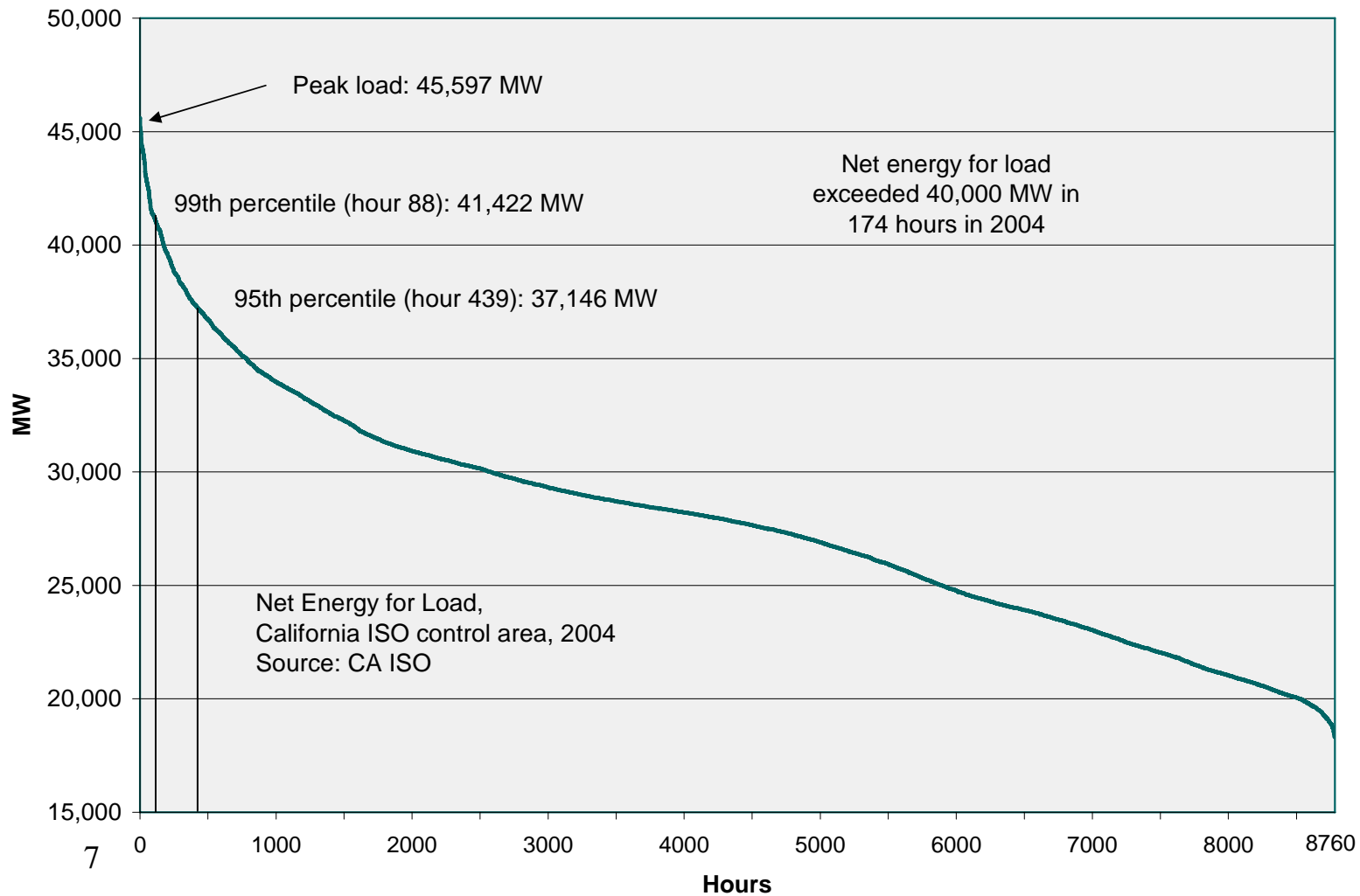
- CA power plant additions & retirements
 - Individual summaries of 21 LSE* Resource Plans
Retail price outlook details
 - CA Retail Price Outlook,
Recent CA and Western U.S. retail prices
- * Publicly owned utilities and energy service providers with at least 200 MW of load in 2003 or 2004.



From Electricity Systems Primer



From Electricity Systems Primer

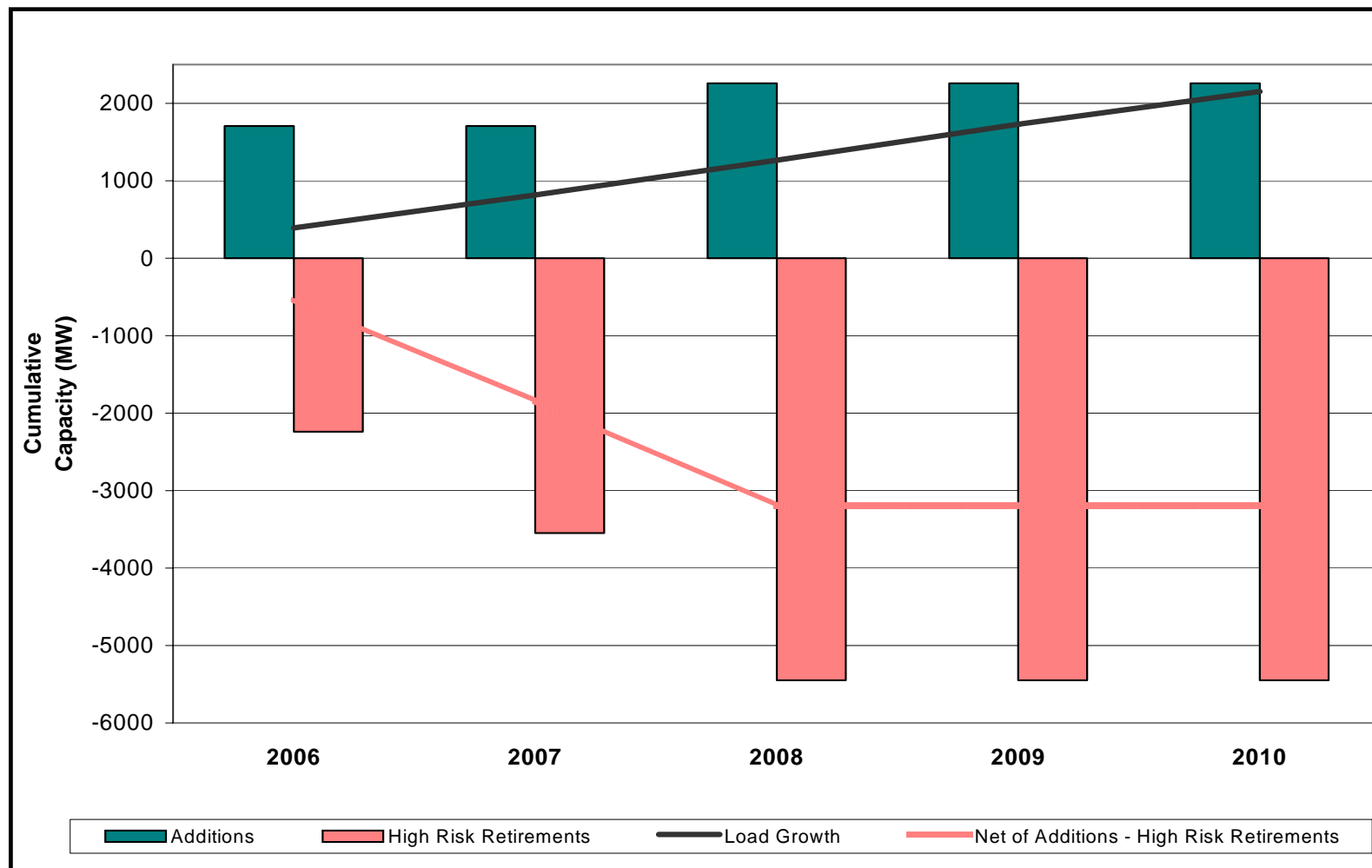


Key Findings — California Supply and Demand Trends 2006-2010

- To maintain adequate reserve margins:
 - Delay *high risk retirements*,
 - Reduce demand, or
 - Add more resources
- Projected additions keep pace with load growth forecasts, *if existing capacity is maintained*
- Loading Order should be used to secure additional resources to meet future deficits.



SP26 Net Additions vs Load Growth



Key Findings — Imports from the Western Interconnection

- Continued reliance upon imported electricity
 - Southwest
 - Northwest
- Continued fast Southwestern growth may absorb future surpluses.
- Large hydro surpluses likely available from Northwest in the summer, but
 - Some Northwest capacity will be stranded due to transmission constraints.



Loads and Resources Outside CA

Northwest Power Pool Region

- Loads in the Pacific Northwest remain low, but Canadian loads increasing.
- LSEs will add resources to meet winter peak & energy requirements.
- LSEs expect to export their surpluses to CA and other markets during summer.

Southwest Region

- Continued load growth in Las Vegas & Phoenix
- Summer peak & energy needs met through contracts & new generation
- Capacity additions have declined since 2002-2003.

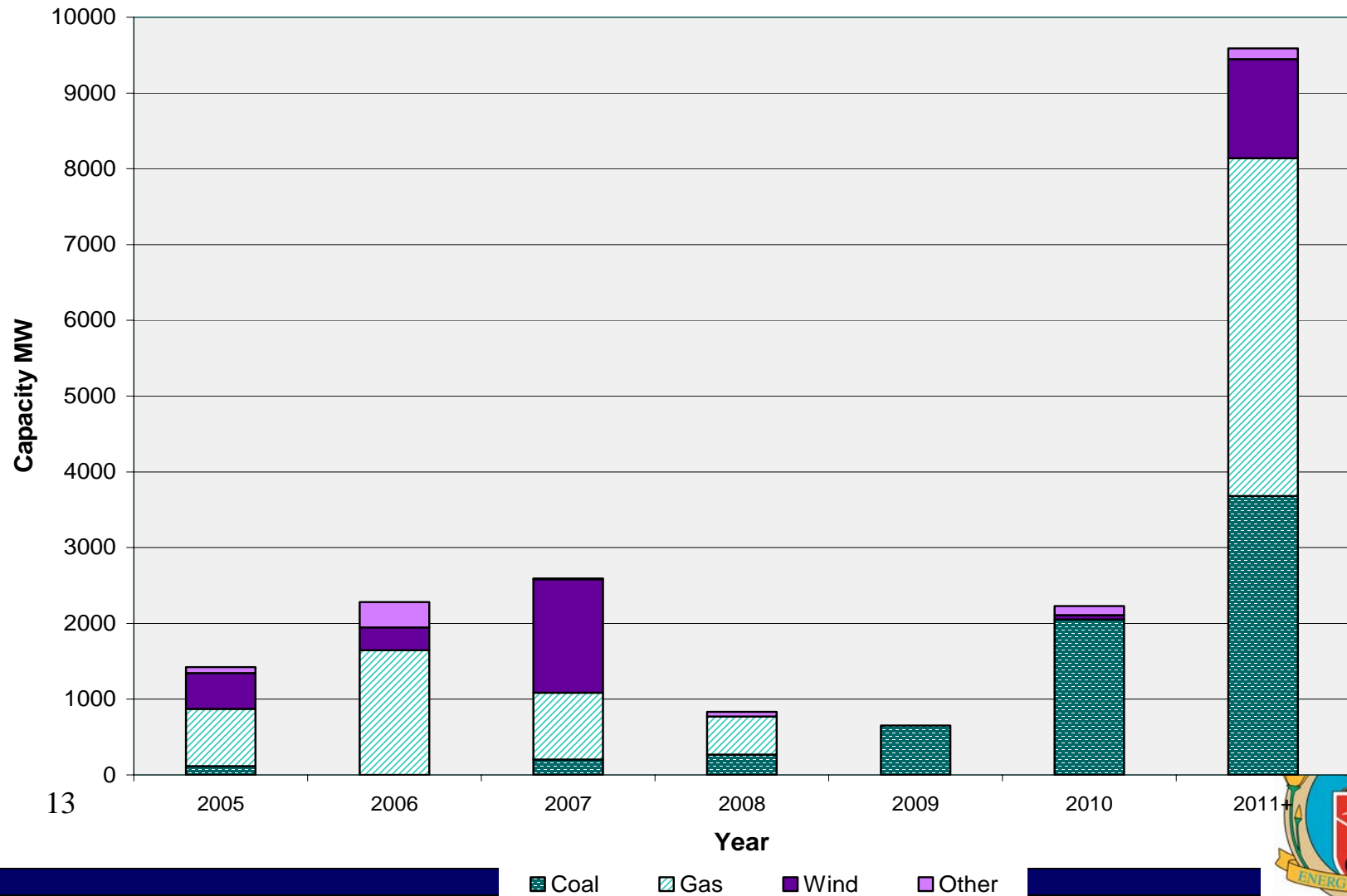


New & Proposed Generation in the Western Interconnection (WECC)

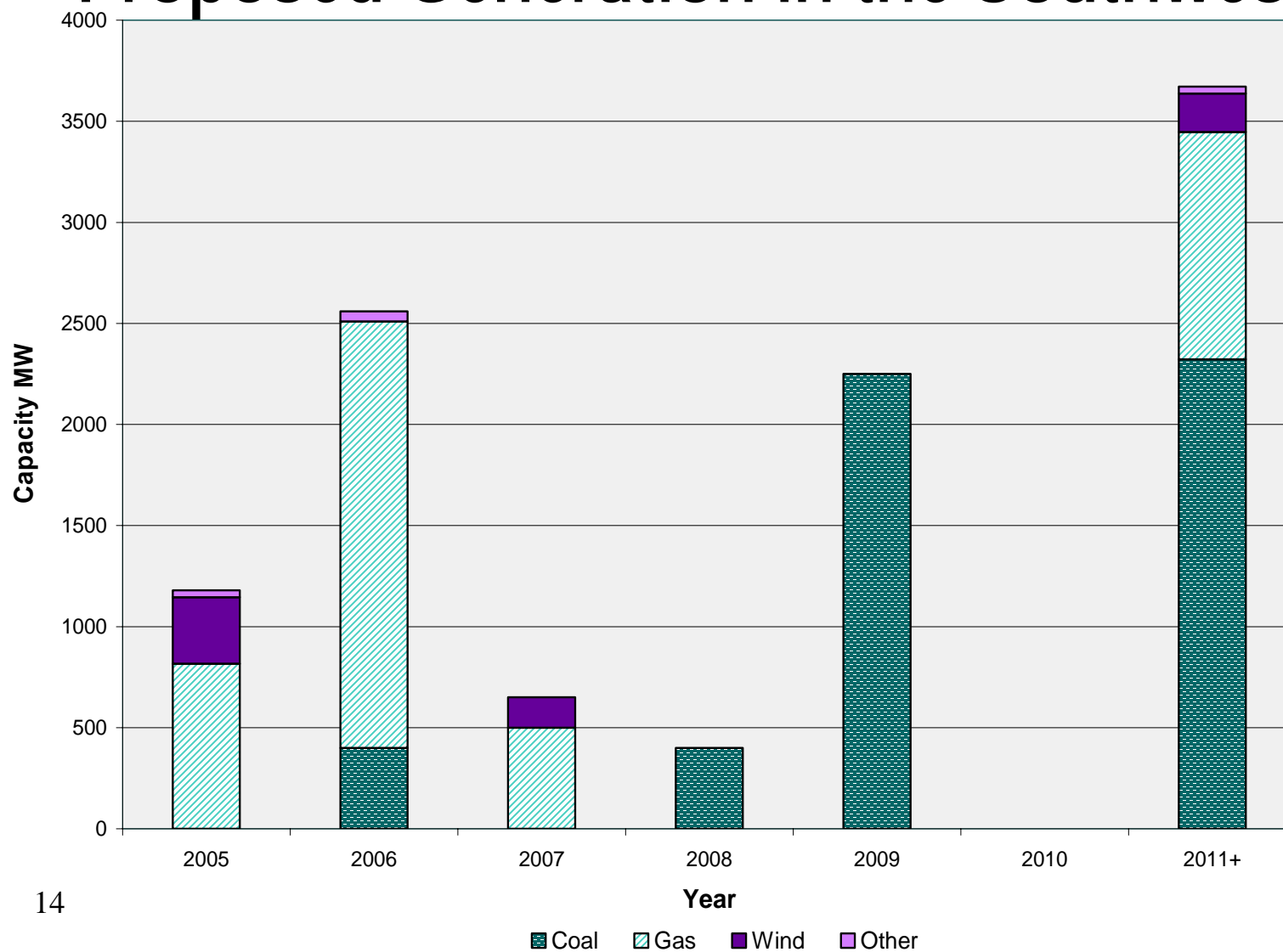
Capacity Additions	Operational or Under Construction			Proposed				
Region	Operational	Under Construction	Subtotal	Approval Received	Application under Review	Starting Approval Process	Press Release	Subtotal
CA-Mex	13,826	4,297	18,123	3,178	1,030	2,305	1,165	7,678
Northwest	9,540	1,769	11,309	6,456	6,373	6,020	4,743	23,592
Rocky Mountain	3,837	282	4,119	90	750	129	2,750	3,719
Southwest	12,939	3,006	15,945	2,580	1,950	2,425	1,095	8,050
WECC Total	40,142	9,354	49,496	12,304	10,103	10,879	9,753	43,039



Proposed Generation in the Northwest



Proposed Generation in the Southwest



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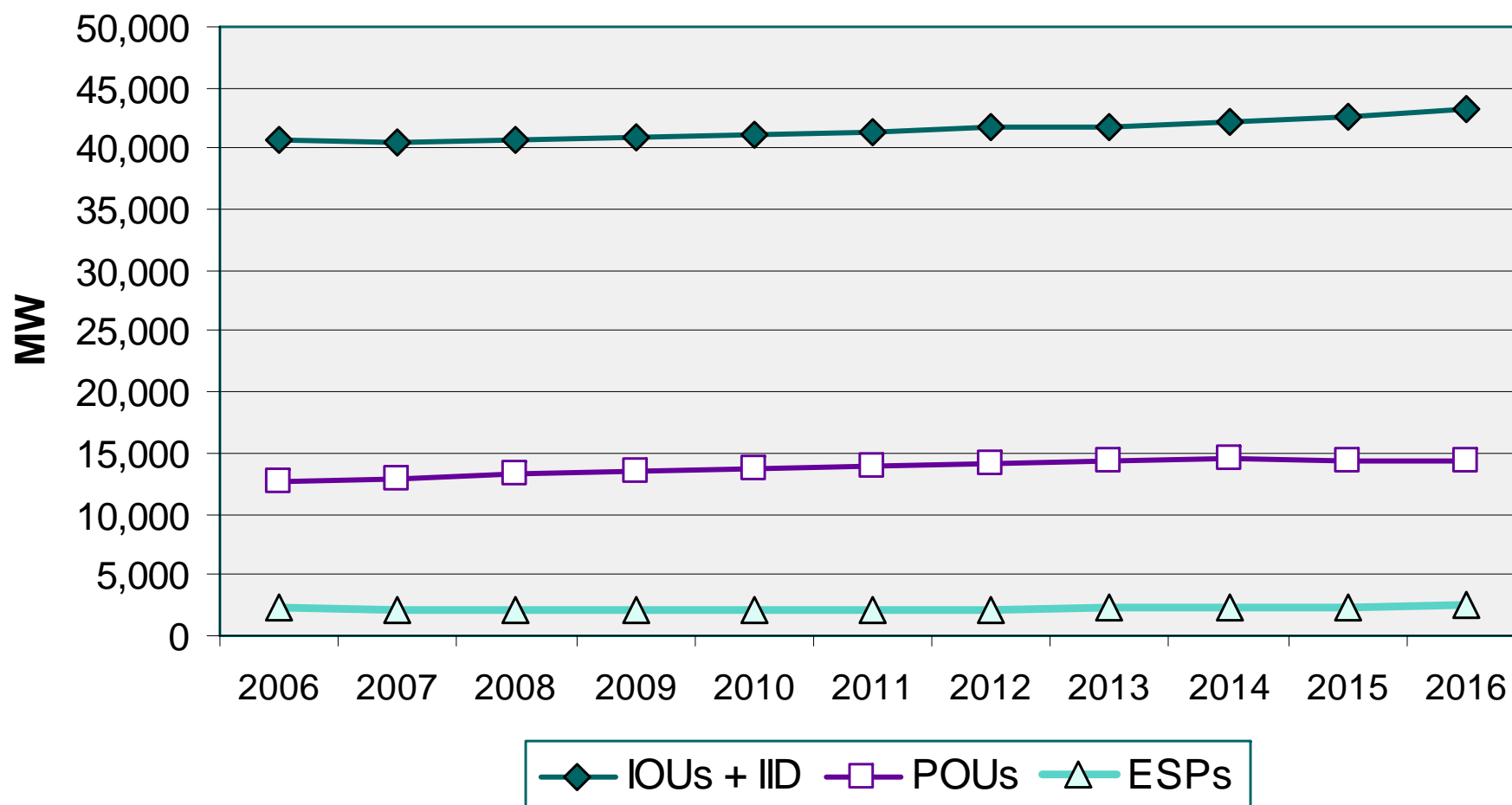
Key Findings from California LSE Resource Plan Filings

Peak Load Projections

- 55,800 MW of *non-coincident* peak demand in 2006
- 60,091 MW of *non-coincident* peak demand by 2016



Key Findings from CA LSE Resource Plan Filings Annual Peak Loads 2006-2016



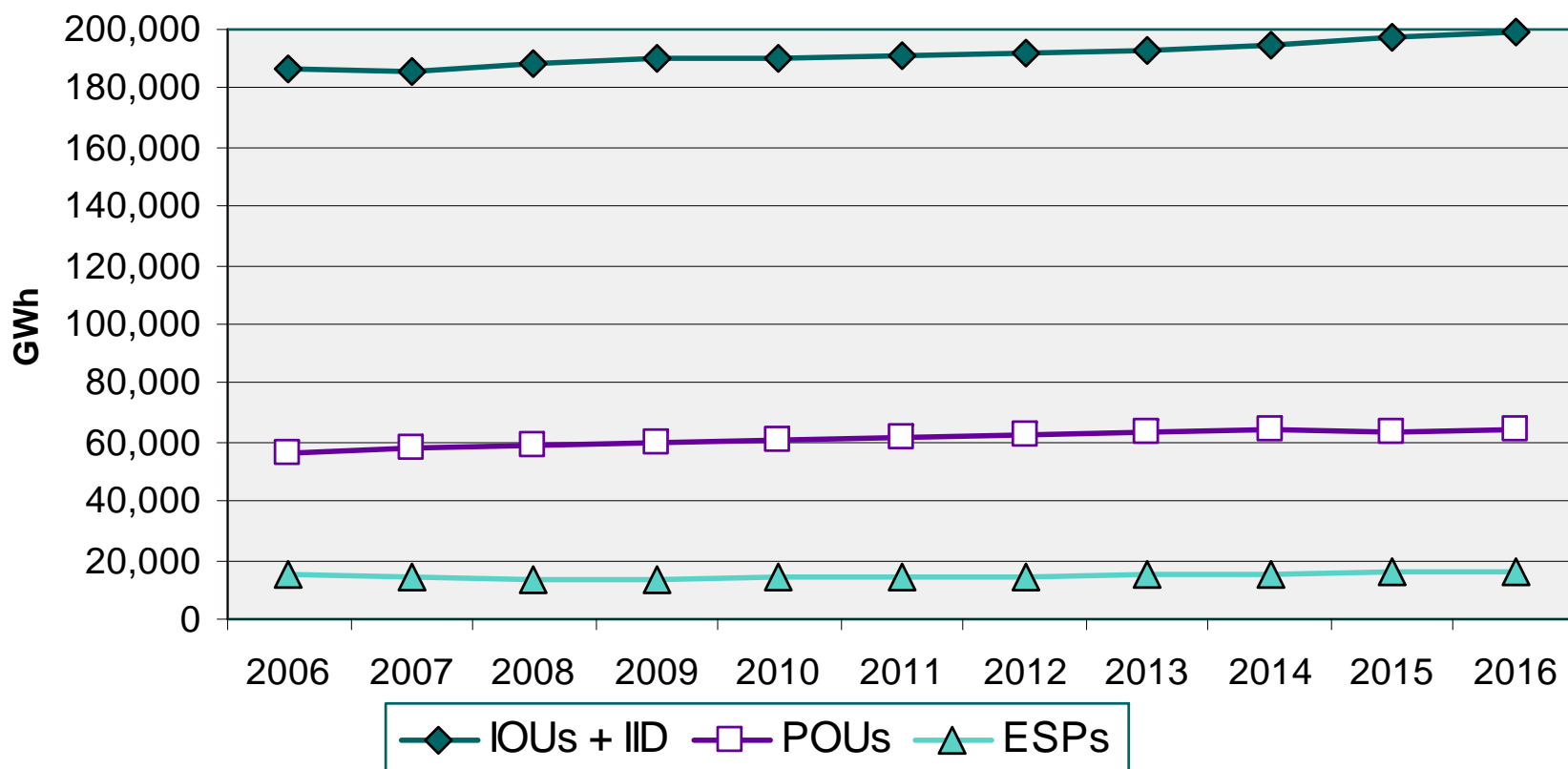
Key Findings from CA LSE Resource Plan Filings

Energy Consumption Projections

- 260,200 GWh of annual energy consumption in 2006
- 282,000 GWh of annual energy consumption by 2016



Forecast Annual Energy Consumption



Market Share Findings

- IOUs expect to lose 1% of customer loads to publicly owned utilities by 2016.
- Energy service providers expect to maintain a 5.9% market share through 2016.

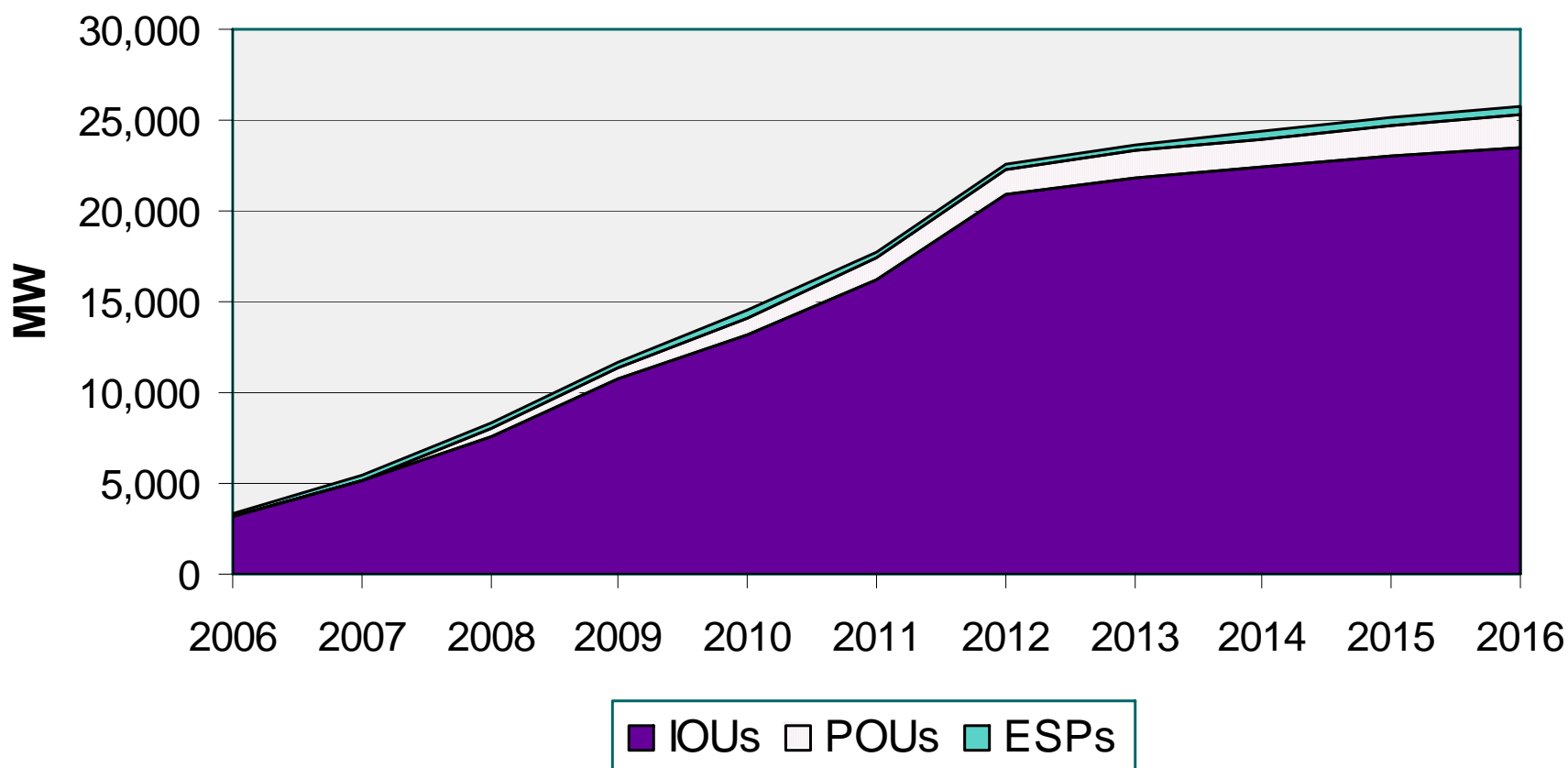


Resource Need Findings

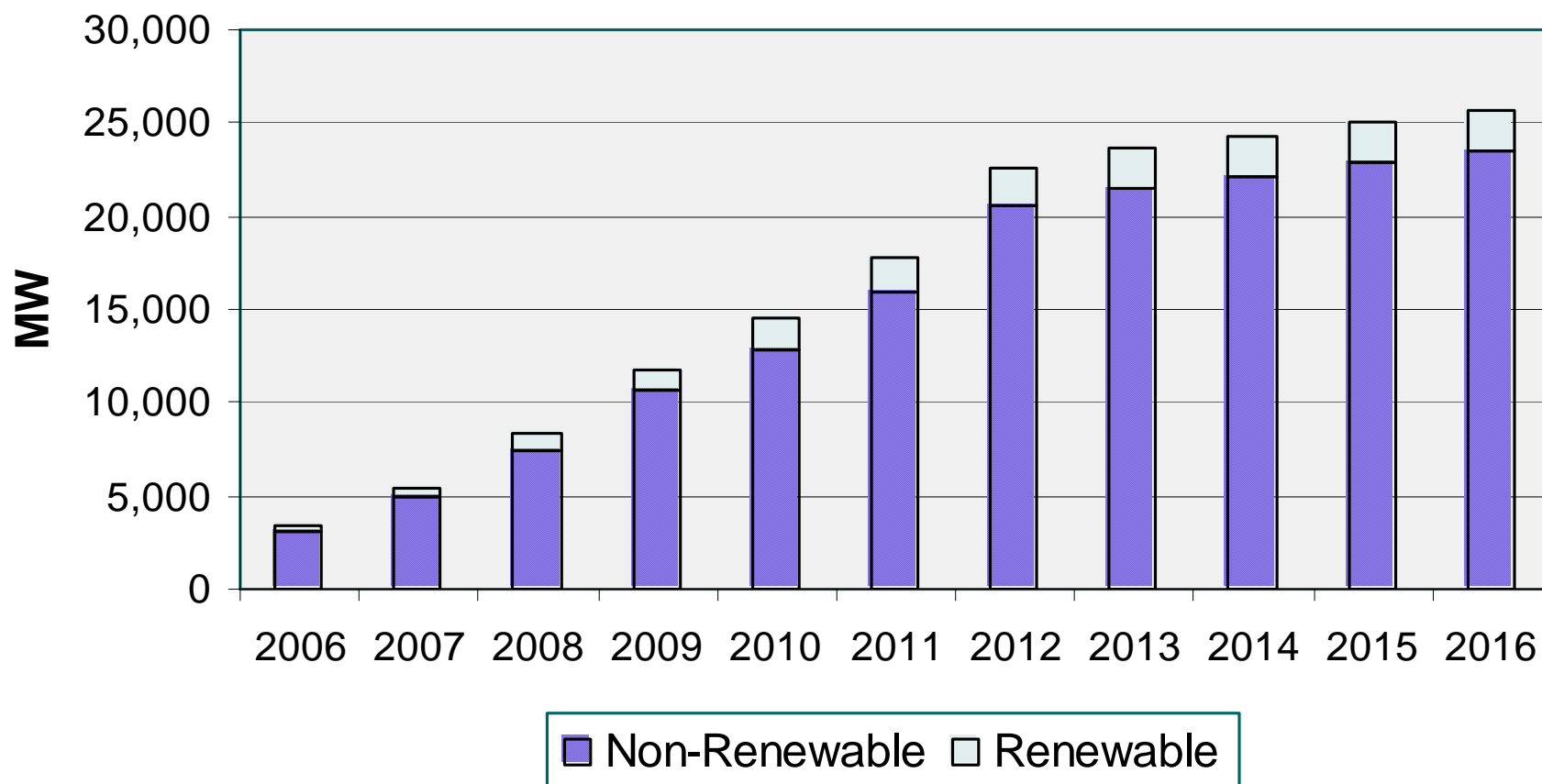
- Approximately 25,000 MW of new capacity likely needed by 2016 to serve *total peak requirements*:
 - Retail loads
 - 15 percent planning reserve margin
 - Firm sales requirements
- This new capacity would replace:
 - Expiring supply contracts
 - Retiring power plants



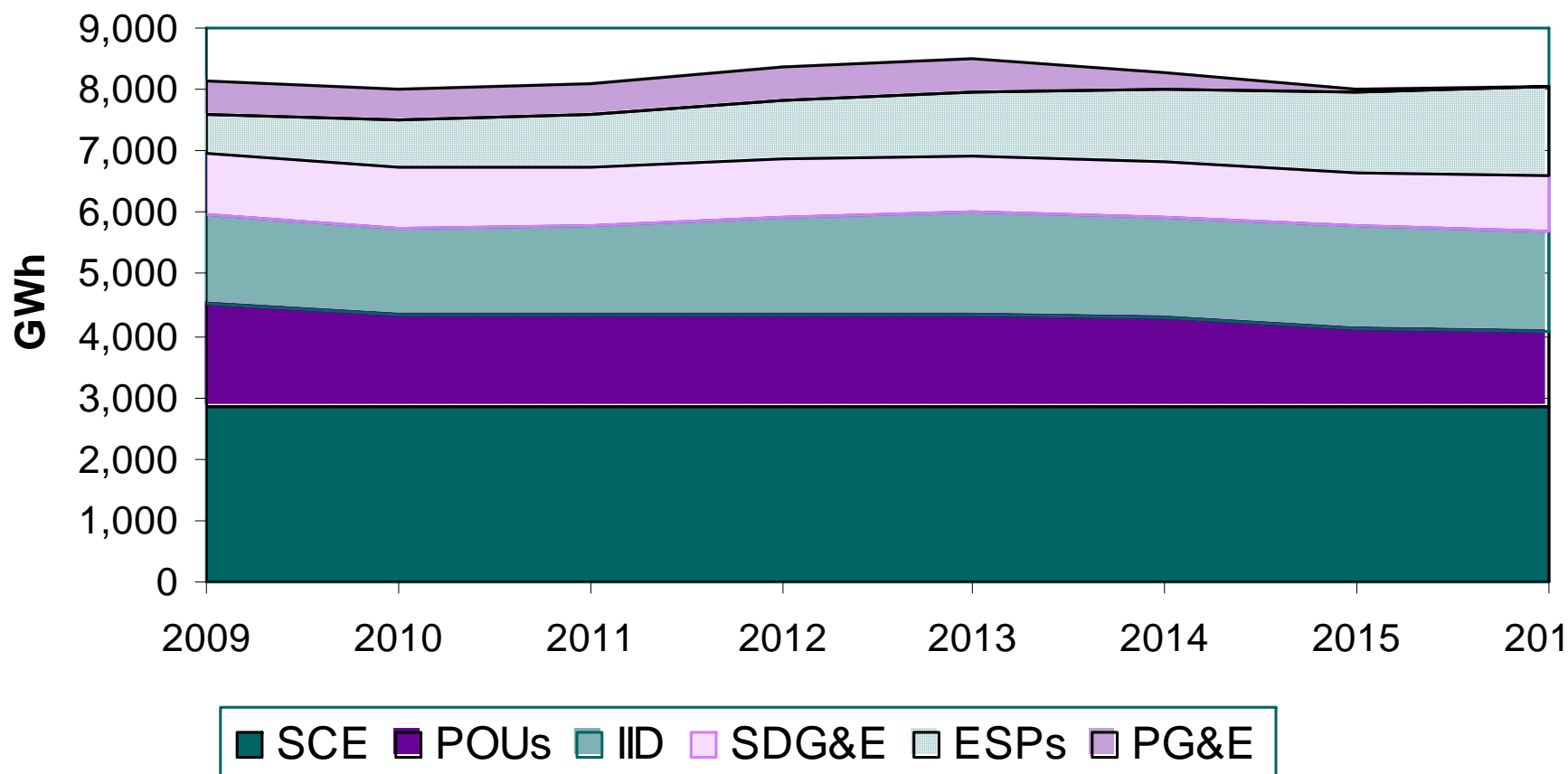
Generic Resource Additions by Load Serving Entity



Generic Resource Additions by Resource Type



Renewable Energy Contract Supplies



Key Findings — California Retail Rates

- Constant IOU rates through 2016, but
 - Substantially higher than rates in other western states
 - Higher than CA publicly owned utilities' (municipal) rates
- Municipal rates may increase slightly during the 2006-2016 period.

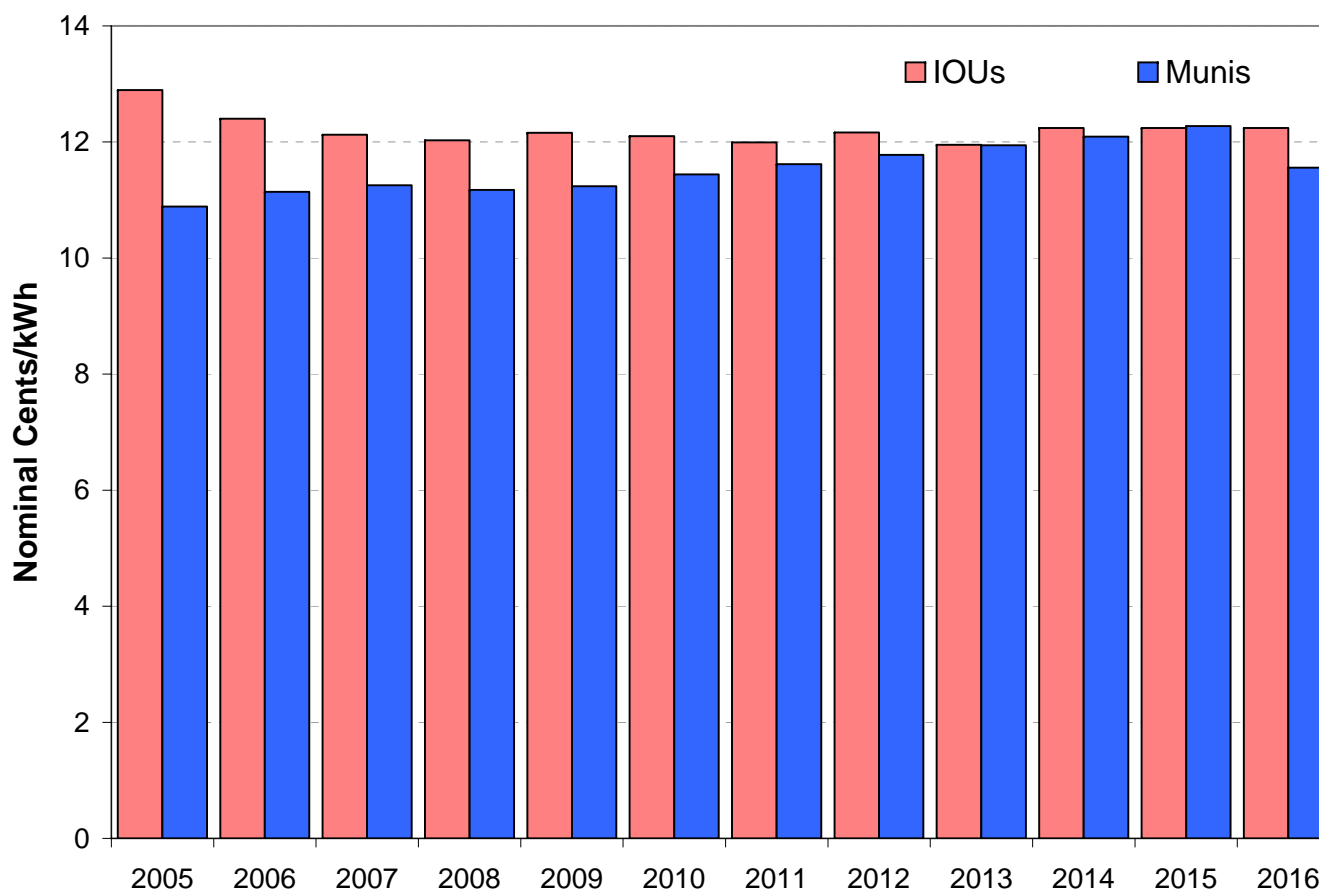


Key Findings — California Retail Rates

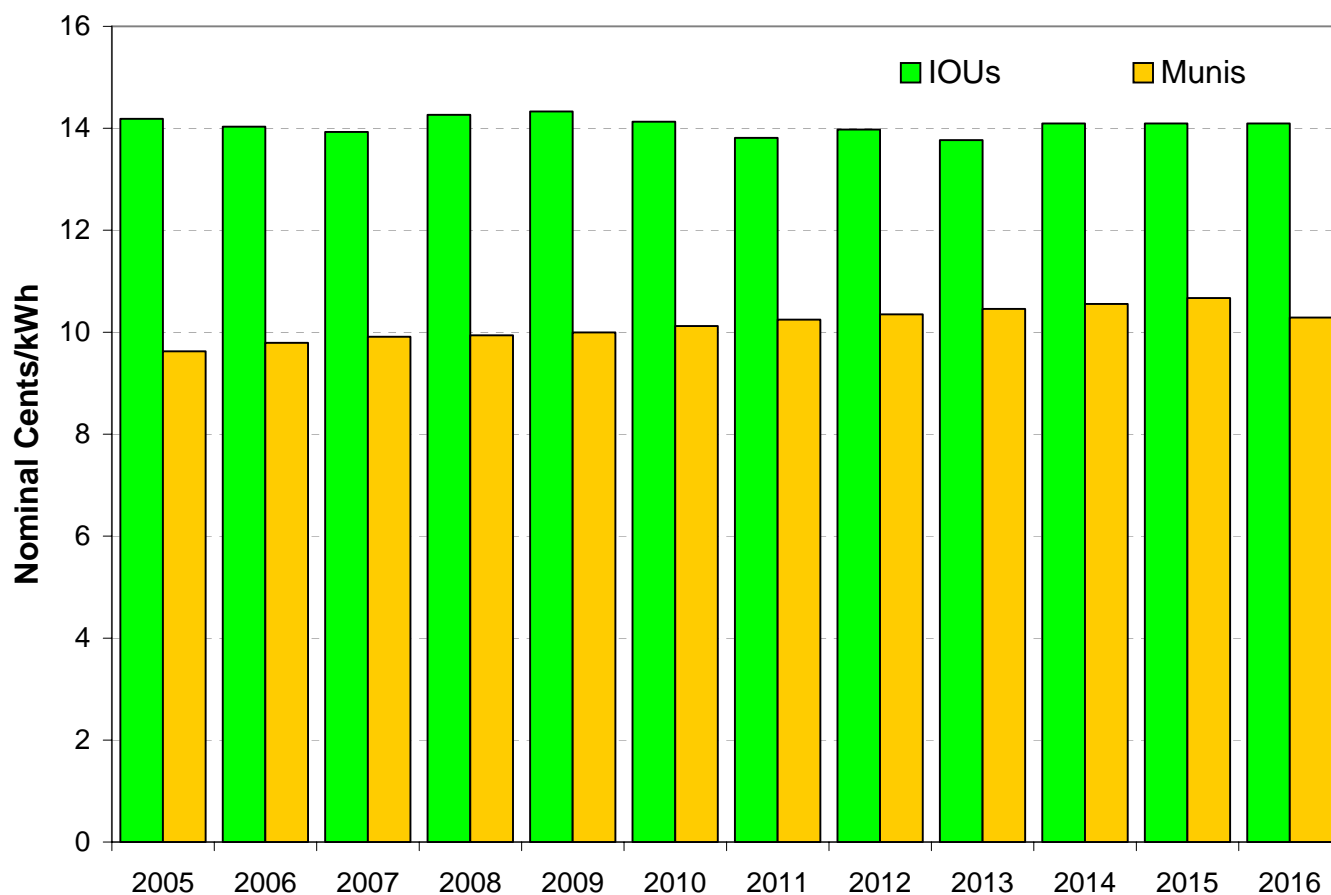
- ESP rates will likely remain flat between 2006 to 2016.
- Rate differences between IOUs and municipals could diminish, if current trends continue.



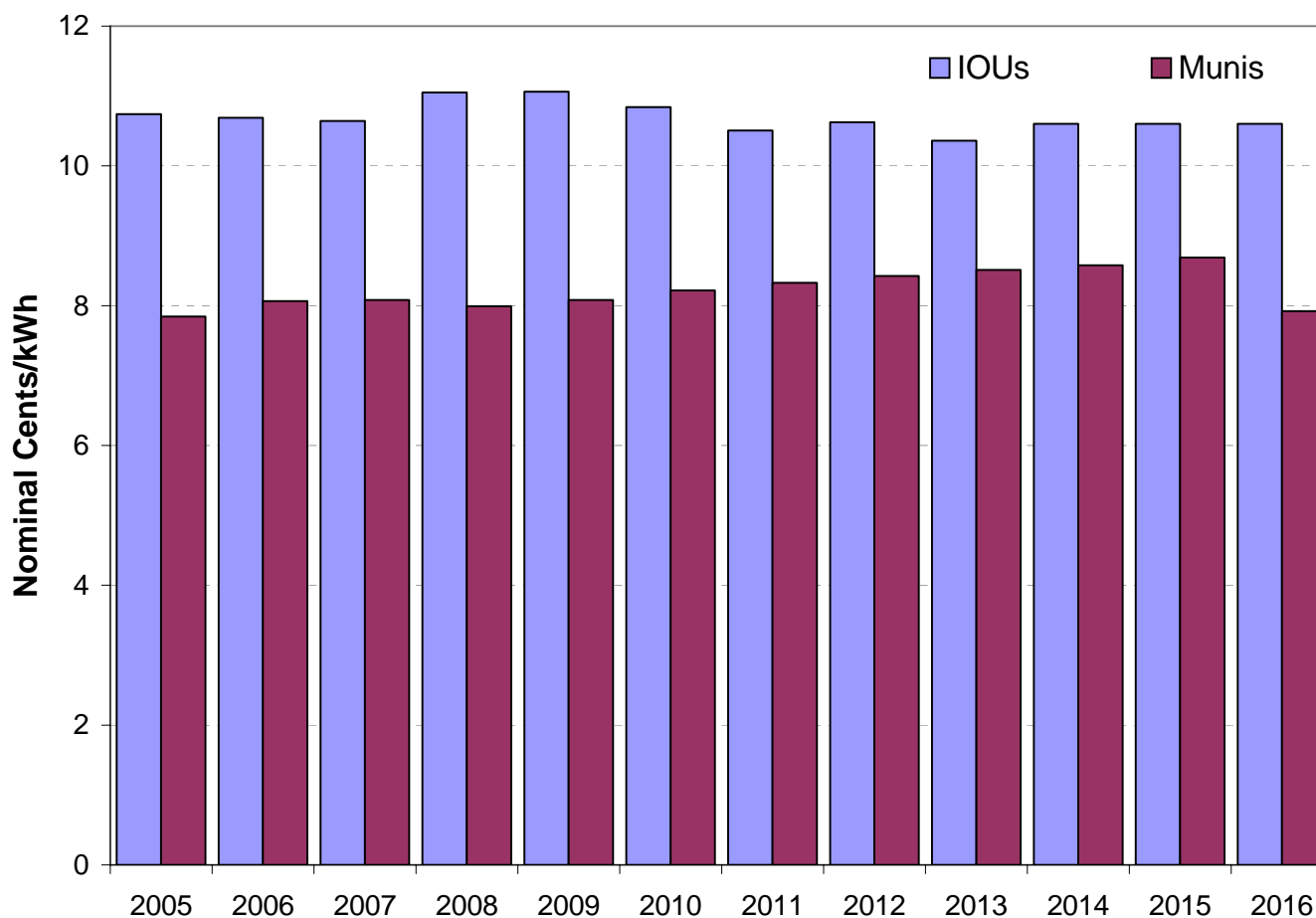
IOU & Municipal Retail Rate Outlook » Residential «



IOU & Municipal Retail Rate Outlook » Commercial «



IOU & Municipal Retail Rate Outlook » Industrial «



Next Steps

- Receive reply comments
 - by August 5, 2005
 - under Docket 04-IEP-1D



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The Western Interconnection

